# DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division - Biology Bureau

#### LAKE TROPHIC DATA

## MORPHOMETRIC:

Lake: SESSIONS POND	Lake Area (ha):	14.16
Town: DUMMER	Maximum depth (m):	10.3
County: Coos	Mean depth (m):	5.0
River Basin: Androscoggin	Volume (m³):	704500
Latitude: 44°42'20"N	Relative depth:	2.4
Longitude: 71°11'50" W	Shore configuration:	1.20
Elevation (ft): 1385	Areal water load (m/yr)	: 7.43
Shore length (m): 1600	Flushing rate $(yr^{-1})$ :	1.50
Watershed area (ha): 207.2	P retention coeff.:	0.59
<pre>% watershed ponded: 0.0</pre>	Lake type: natura	l w/dam

BIOLOGICAL:	12 August 1997
DOM. PHYTOPLANKTON (% TOTAL) #1	RHIZOSOLENIA 65%
#2	DINOBRYON 30%
#3	(NET PHYTO. WAS SPARSE)
PHYTOPLANKTON ABUNDANCE (units/mL)	
CHLOROPHYLL-A (µg/L)	7.14
DOM. ZOOPLANKTON (% TOTAL) #1	KELLICOTTIA>99%
#2	
#3	
ROTIFERS/LITER	24
MICROCRUSTACEA/LITER	<1
ZOOPLANKTON ABUNDANCE (#/L)	24
VASCULAR PLANT ABUNDANCE	Sparse
SECCHI DISK TRANSPARENCY (m)	3.9
BOTTOM DISSOLVED OXYGEN (mg/L)	0.4
BACTERIA (E. coli, #/100 ml) #1	< 1
#2	
#3	

## SUMMER THERMAL STRATIFICATION:

#### stratified

Depth of thermocline (m): 4.4 Hypolimnion volume  $(m^3)$ : 82500 Anoxic volume  $(m^3)$ : 38500

CHEMICAL:	SESSIONS DUMMER	POND	
	12 7	August 199	97
DEPTH (m)	2.0	4.5	8.0
pH (units)	6.9	7.0	6.1
A.N.C. (Alkalinity)	5.7	5.9	8.0
NITRATE NITROGEN	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.24	0.20	0.40
TOTAL PHOSPHORUS	0.008	0.007	0.018
CONDUCTIVITY (µmhos/cm)	25.5	24.8	28.1
APPARENT COLOR (cpu)	17	19	30
MAGNESIUM	0.59		
CALCIUM	2.3		
SODIUM	1.0		
POTASSIUM	0.35		
CHLORIDE	< 2		< 2
SULFATE	4		3
TN : TP	30		22
CALCITE SATURATION INDEX	3.3		

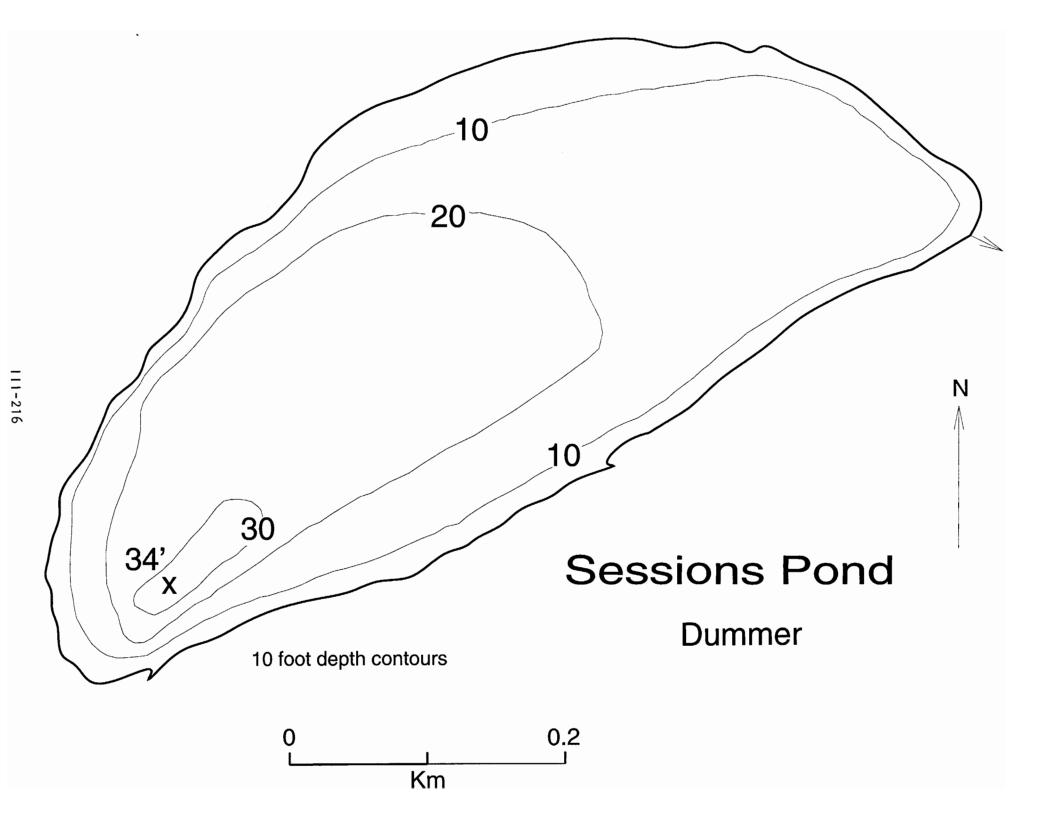
All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1997

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
6	2	0	1	9	Meso.

## COMMENTS:

- 1. This pond was previously surveyed in 1992. The 1997 survey was done in conjunction with a special paleolimnological/bioassessement study. The pond was not re-sounded in 1997 and no winter samples were collected. There was little difference in water quality between the two dates but the rating changed. Sessions Pond is a borderline oligotrophic/mesotrophic pond.
- The shoreline was lined with various shrubs including leatherleaf, sweet gale, buttonbush and blueberry -- but were not in the water. Only plants in the water or wet shoreline are depicted on the plant map.
- 3. A fallen log along the shore supported a sphagnum mat along with sundew and pitcher plants, but the plants were not actually in the water and are not listed in the plant survey.



## FIELD DATA SHEET

LAKE: SESSIONS POND TOWN: DUMMER

DATE: 08/12/97 WEATHER: CLEAR & SUNNY; LT. BREEZE

(°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
22.7	8.5	99 %
22.5	8.5	98 %
22.1	8.5	98 %
21.6	8.8	99 %
17.7	13.3	139 %
12.3	12.7	125 %
8.5	8.5	73 %
7.1	0.4	3 %
6.7	0.4	3 %
6.4	0.4	4 %
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	A MARKET	
	22.7 22.5 22.1 21.6 17.7 12.3 8.5 7.1 6.7	22.7     8.5       22.5     8.5       22.1     8.5       21.6     8.8       17.7     13.3       12.3     12.7       8.5     8.5       7.1     0.4       6.7     0.4

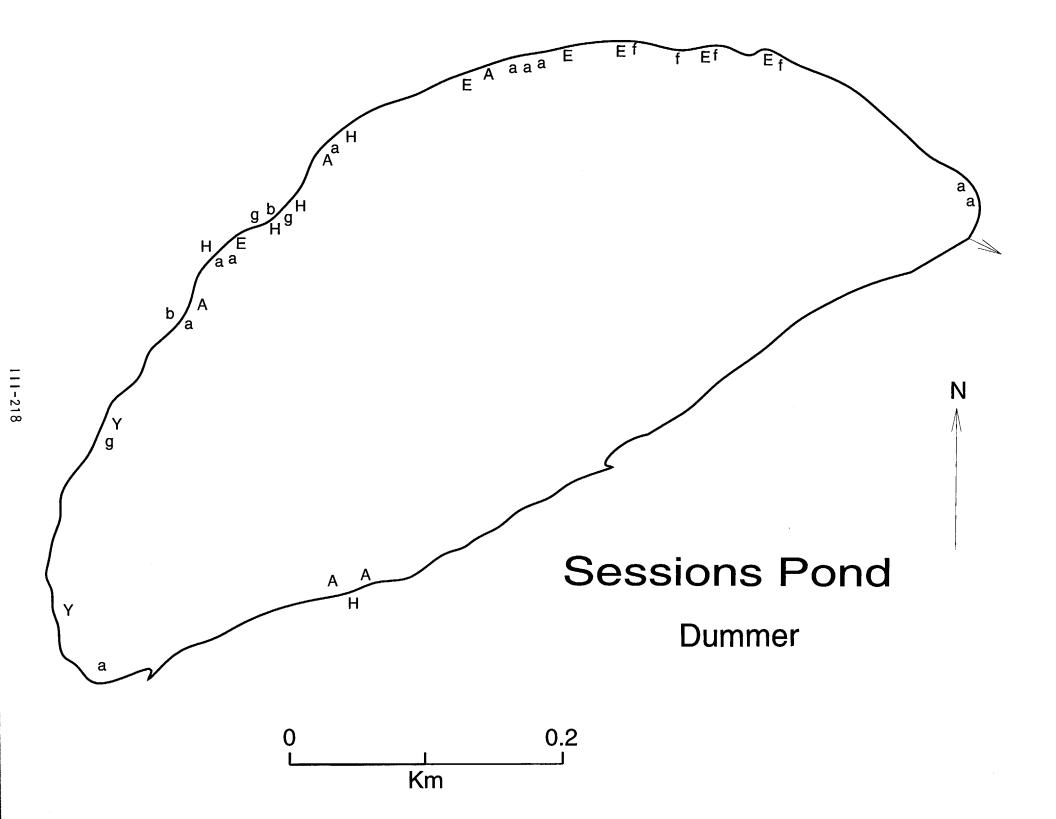
SECCHI DISK (m): 3.9

COMMENTS:

BOTTOM DEPTH (m): 9.7

TIME: 1150

<sup>\*</sup>Dissolved oxygen values are in mg/L



## AQUATIC PLANT SURVEY

LAK	E: SESSIONS POND	TOWN: DUMMER	DATE: 08/12/97		
Key	PLANT NAME				
ice y	GENERIC	COMMON	ABUNDANCE		
а	Sagittaria	Sterile arrowhead r	cosette Sparse		
A	Sagittaria	Arrowhead	Sparse		
Н	Equisetum	Horsetail	Sparse		
Y	Nuphar	Yellow water lily	Sparse		
g	Myrica gale	Sweet gale	Sparse		
b	Scirpus	Bulrush	Sparse		
E	Eriocaulon septangulare	Pipewort	Sparse		
f	Chlorophyceae	Filamentous green a	lgae Sparse		
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## GENERAL OBSERVATIONS:

1. All plants were sparse; most of the shoreline substrate was rocky and much of it was layered with fallen logs and limbs.

OVERALL ABUNDANCE: Sparse

- 2. Filamentous green algae were draped around most of the pipewort; it was mostly an unidentifiable species (shrunken chloroplasts) but both *Mougeotia* and *Spirogyra* were present.
- 3. Most of the Sagittaria was in the sterile rosette form, but some areas did contain an emergent plant (slender, tapering non arrow shaped leaves similar to S. graminea).